Montana Dept. of Transportation

Montana Wetland Assessment Method

Background

- MDT and FWP developed a highway project wetland evaluation method in 1989.
- Method was substantially revised in 1994 and tested for 2 field seasons.
- Method was again revised in 1996 and tested for 3 field seasons.
- Method was revised in 1999 and has been in use for 6 field seasons.
- All revisions were coordinated and approved through the Montana Interagency Wetland Group.
- Revision is tentatively planned for 2005.

General Objectives

- Rapid, economical, and repeatable.
- Apply to all Montana wetland types.
- Meet Section 404 regulatory functional assessment needs with respect to most projects.
- Minimize subjectivity and variability between evaluators.
- Assign overall ratings to facilitate impact avoidance priorities.
- Incorporate some HGM principles.

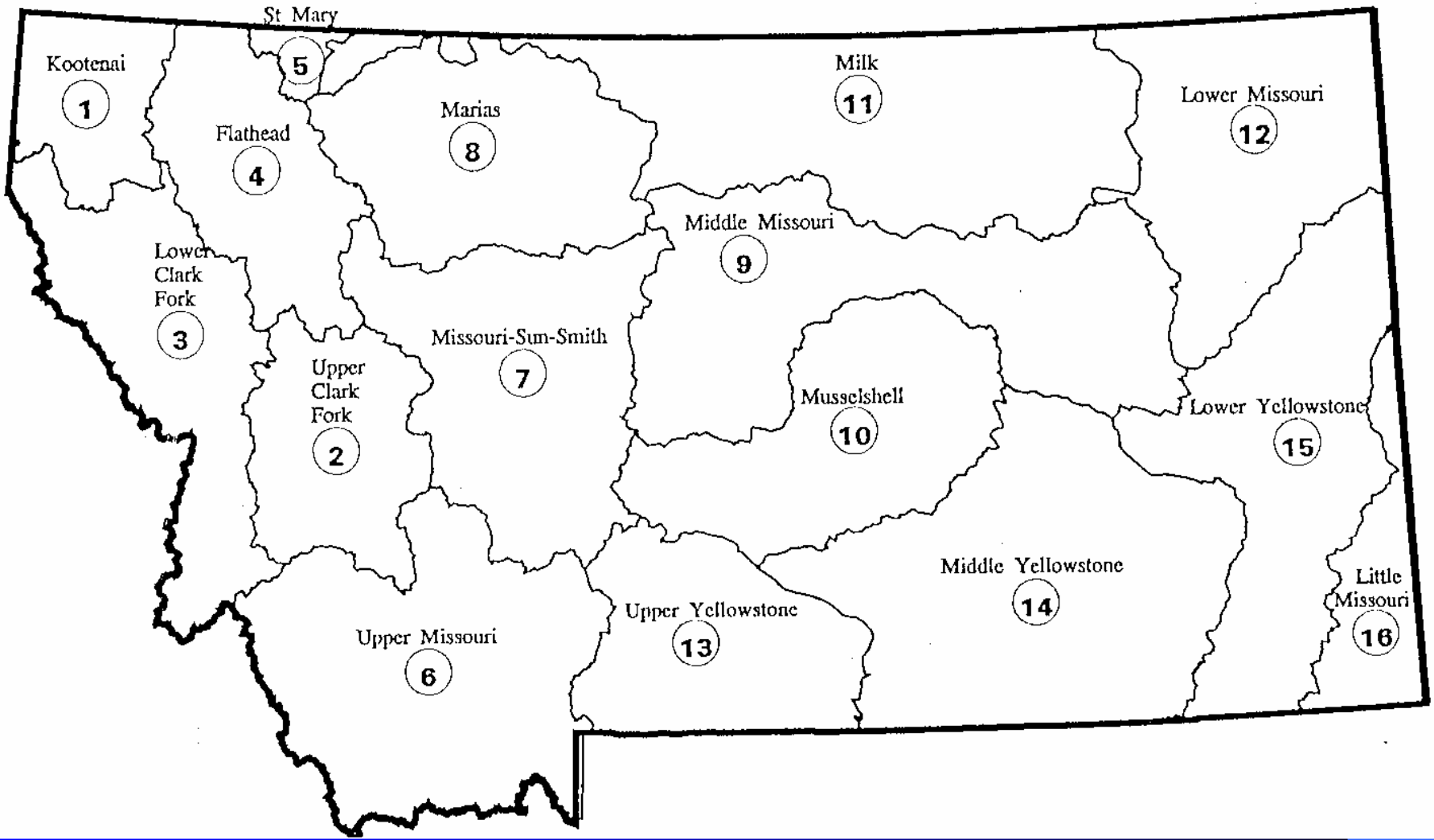
Primary Questions the Assessment Method is Trying to Answer

- How does the wetland assessment area "rank" in comparison to other wetlands in the area of interest?
- What are its prominent functions?
- Facilitates impact avoidance prioritization.
- Allows comparison of impact verses mitigation sites from functional perspective.

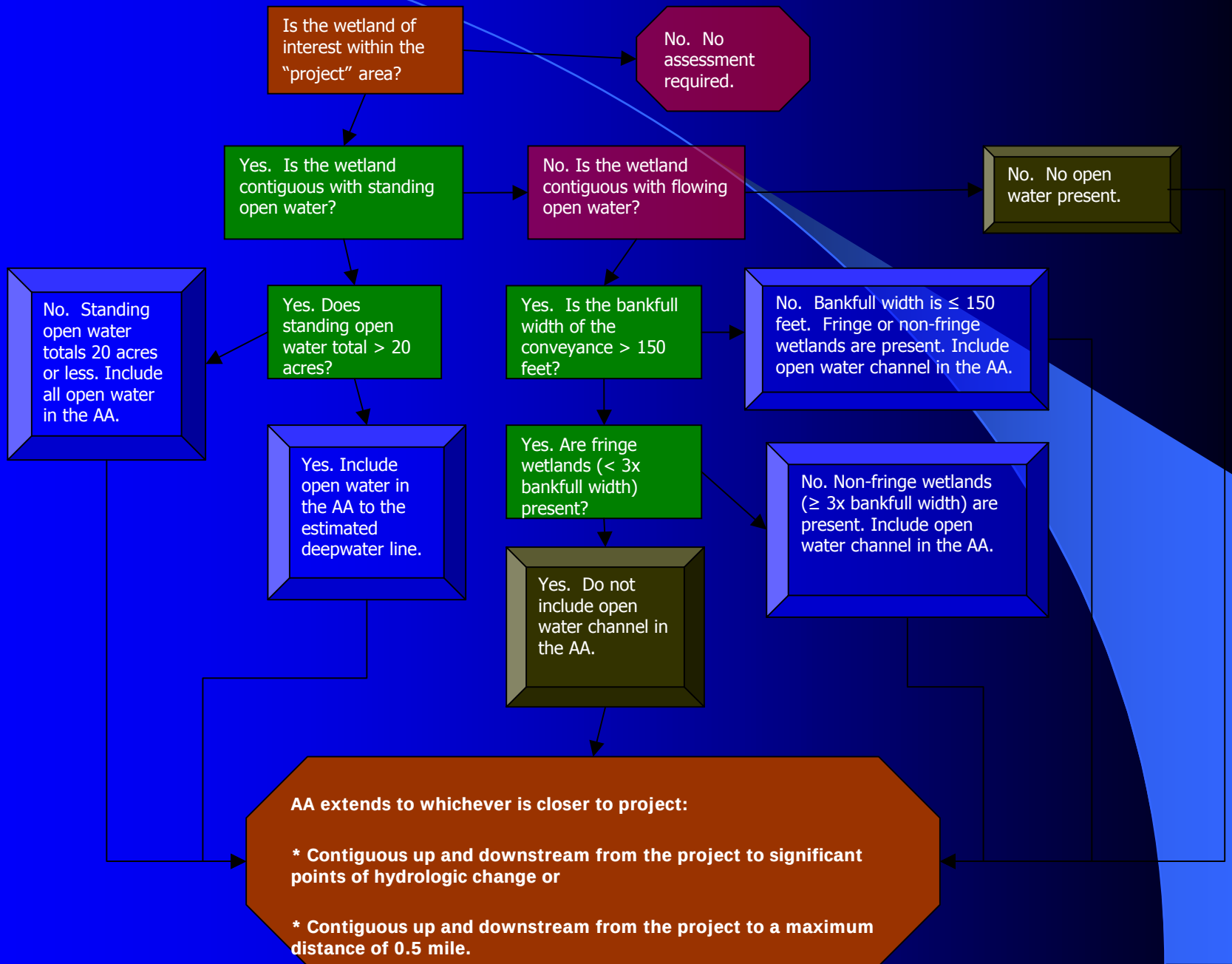
Overview

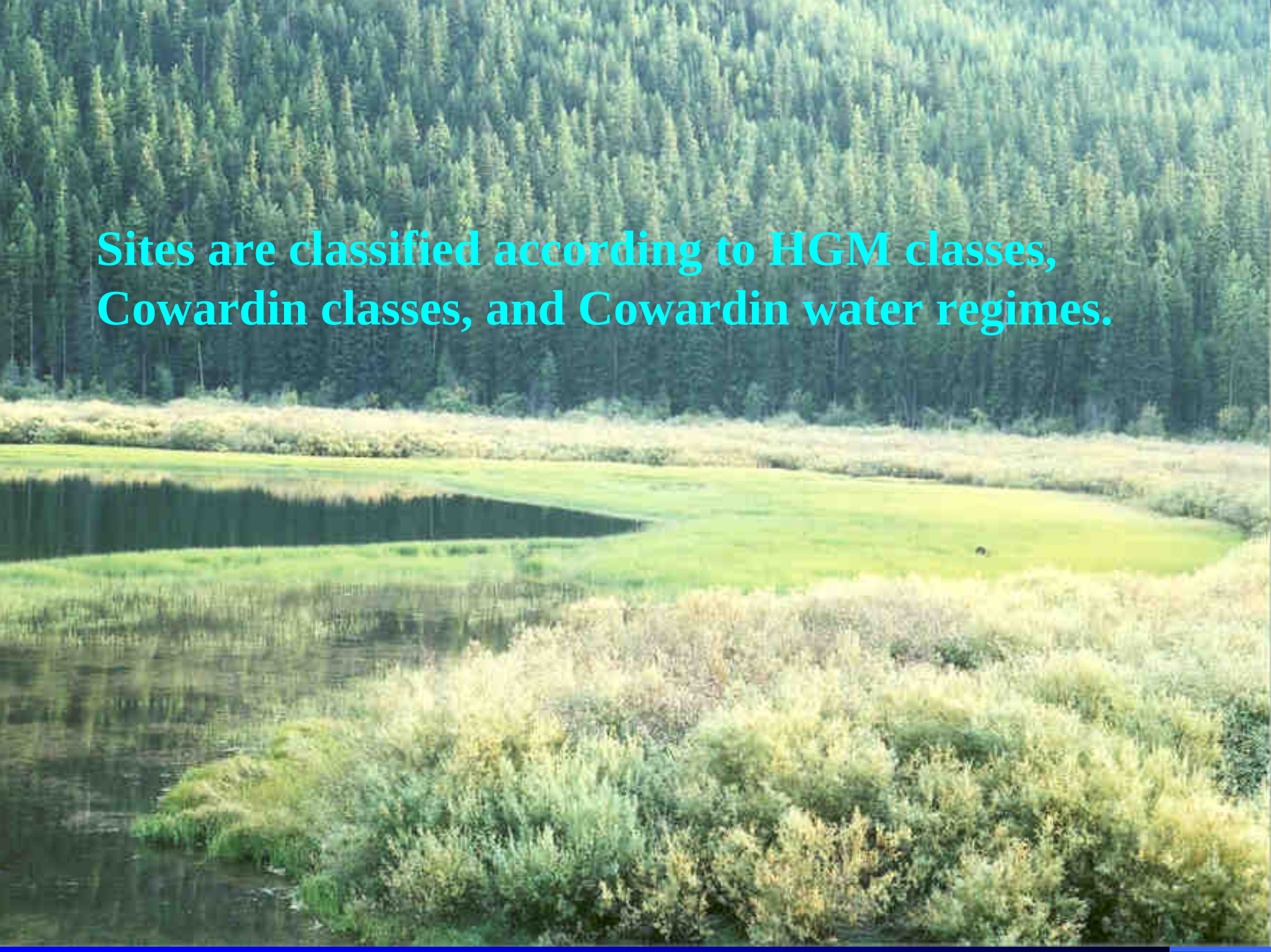
- Follows wetland delineation - assesses 12 primary wetland functions and values.
- Assigns each parameter a rating of “low”, “moderate”, “high”, or “exceptional”.
- Scores each on a scale of 0.0 to 1.0 functional points using a matrix format.
- Sums functional points and expresses as percentage of possible total.
- Uses this percentage in conjunction with other criteria to assign overall rank of Category I, II, III, or IV.

Context: Major Montana Watershed Basins



Assessment Area Flowchart




Sites are classified according to HGM classes,
Cowardin classes, and Cowardin water regimes.

Degree of Disturbance

Threatened and Endangered Species Habitat

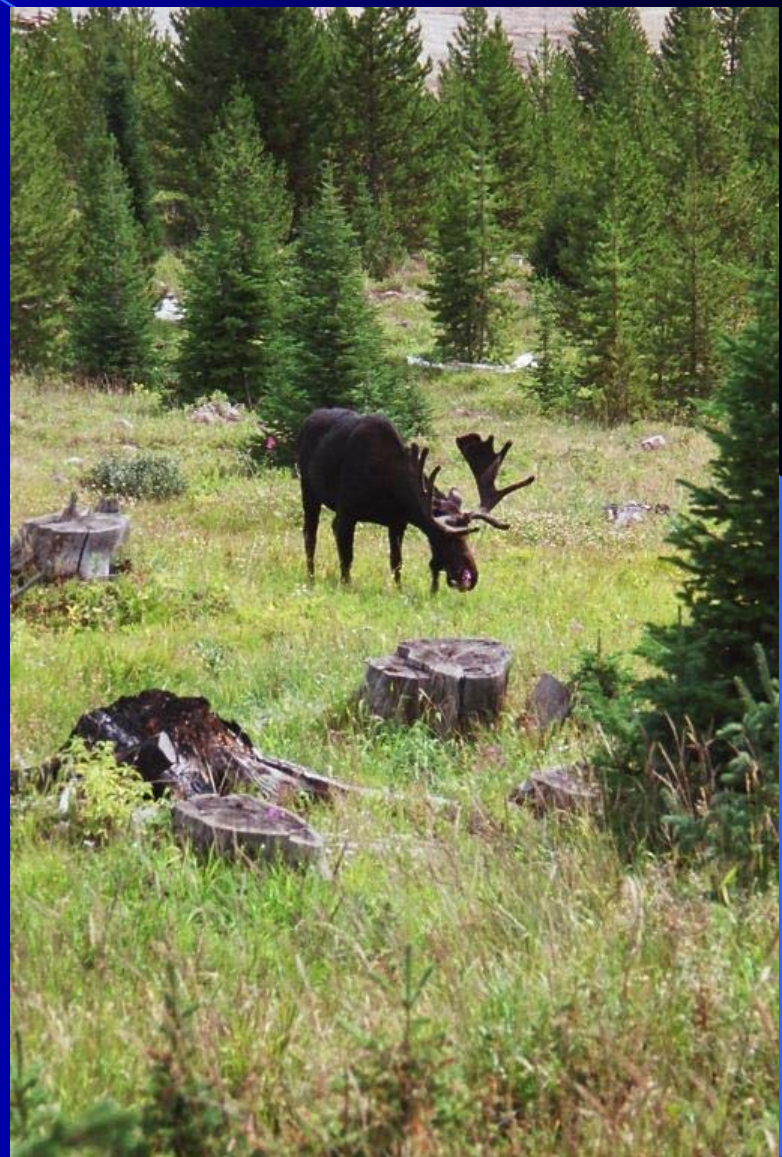
- Documented or suspected primary habitat
- Documented or suspected secondary habitat
- Documented or suspected incidental habitat

MTNHP Sensitive Species Habitat (critically imperiled, imperiled, or vulnerable in MT)

- Documented or suspected primary habitat
- Documented or suspected secondary habitat
- Documented or suspected incidental habitat

General Wildlife Habitat

- Evidence of substantial, moderate, or low use levels
- Vegetative structural diversity
- Distribution (evenness) of vegetated wetland classes (Cowardin et al. 1979)
- Duration of surface water
- Disturbance



General Fish Habitat

- Duration of surface water
- % of waterbody containing cover objects
- % shoreline or streambank with shrub or forested communities (shading)
- Presence of native game fish, introduced game fish, non-game fish, no fish

Flood Attenuation

capability to slow flows during flood events

- Size of wetland area subject to flooding
- % of flooded wetland classified as scrub-shrub or forested
- Restricted verses unrestricted outlet

Surface Water Storage

potential to capture and retain surface water

- Maximum acre-feet of water in wetlands subject to flooding or ponding
- Duration of surface water
- Flooding / Ponding frequency

Sediment/Nutrient/Toxicant Retention and Removal

- Potential of surrounding use to deliver low, moderate, or high levels
- % cover of wetland vegetation
- Evidence of flooding or ponding
- Restricted or unrestricted outlet

Sediment / Shoreline Stabilization

potential to dissipate stream or wave energy

- % cover of wetland streambank or shoreline by species with deep, binding rootmasses
- Duration of surface water

Production Export / Food Chain Support

potential to produce and export food/nutrients for living organisms

- Size of vegetated component
- Vegetative structural diversity
- Outlet presence
- Duration of surface water

Groundwater Discharge / Recharge

- Known springs / seeps
- Soil pit observations
- Occurs at toe of natural slope
- Vegetation growth / surface water during drought
- Outlet, no inlet
- Inlet, no outlet
- Other indicators

Uniqueness
replacement potential

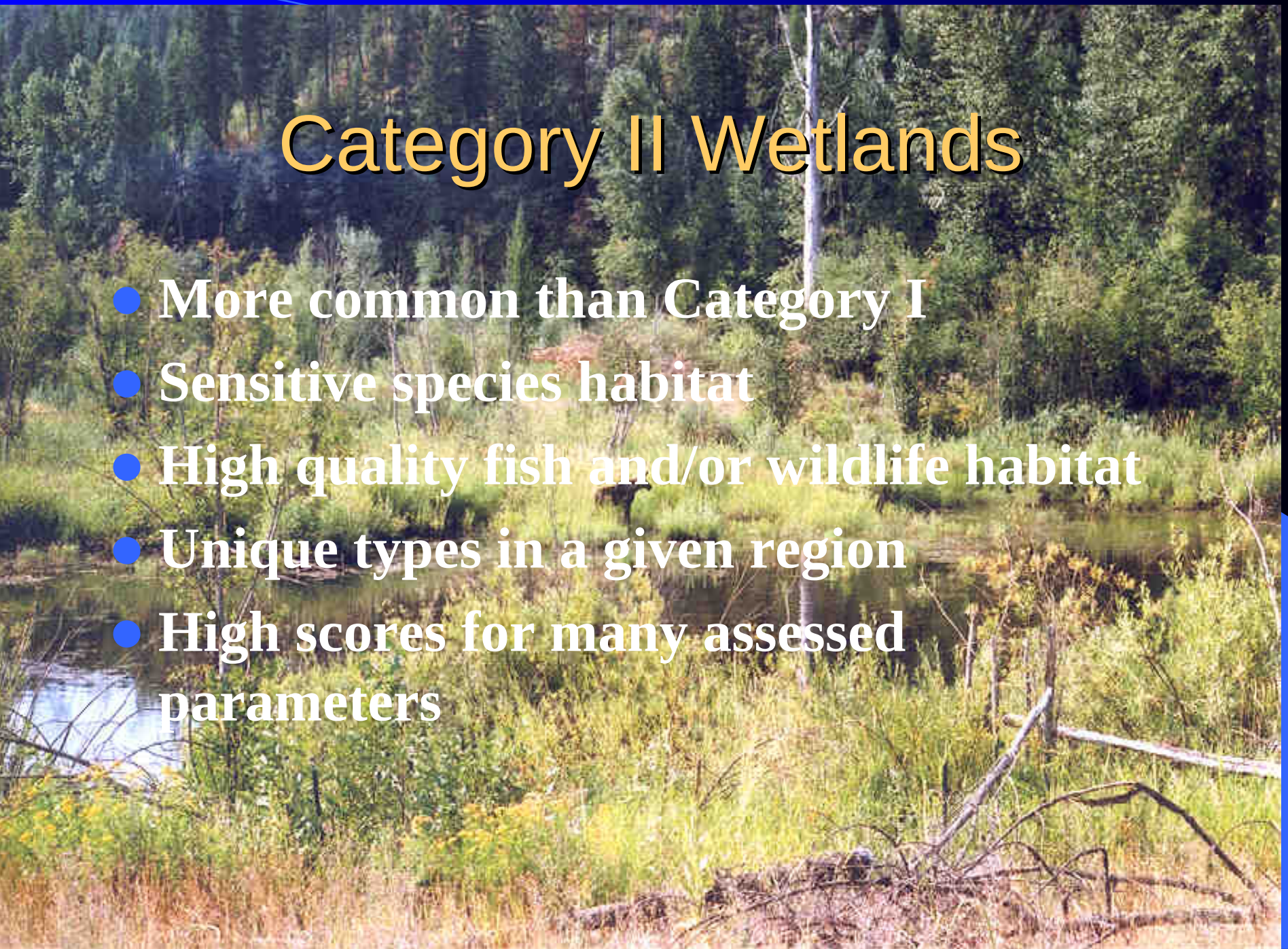
- Fen, bog, warm springs, mature forested wetland
- Imperiled ecological community (MTNHP)
- Structural diversity
- Relative abundance in watershed
- Disturbance

Recreation / Education Potential

- Known recreation / education site
- Potential for recreational / educational use
- Disturbance
- Public vs. private ownership

Category I Wetlands

- **Exceptionally high quality**
- **Documented primary T&E species habitat**
- **Especially unique / rare wetland types**
- **Very high scores for assessed parameters**



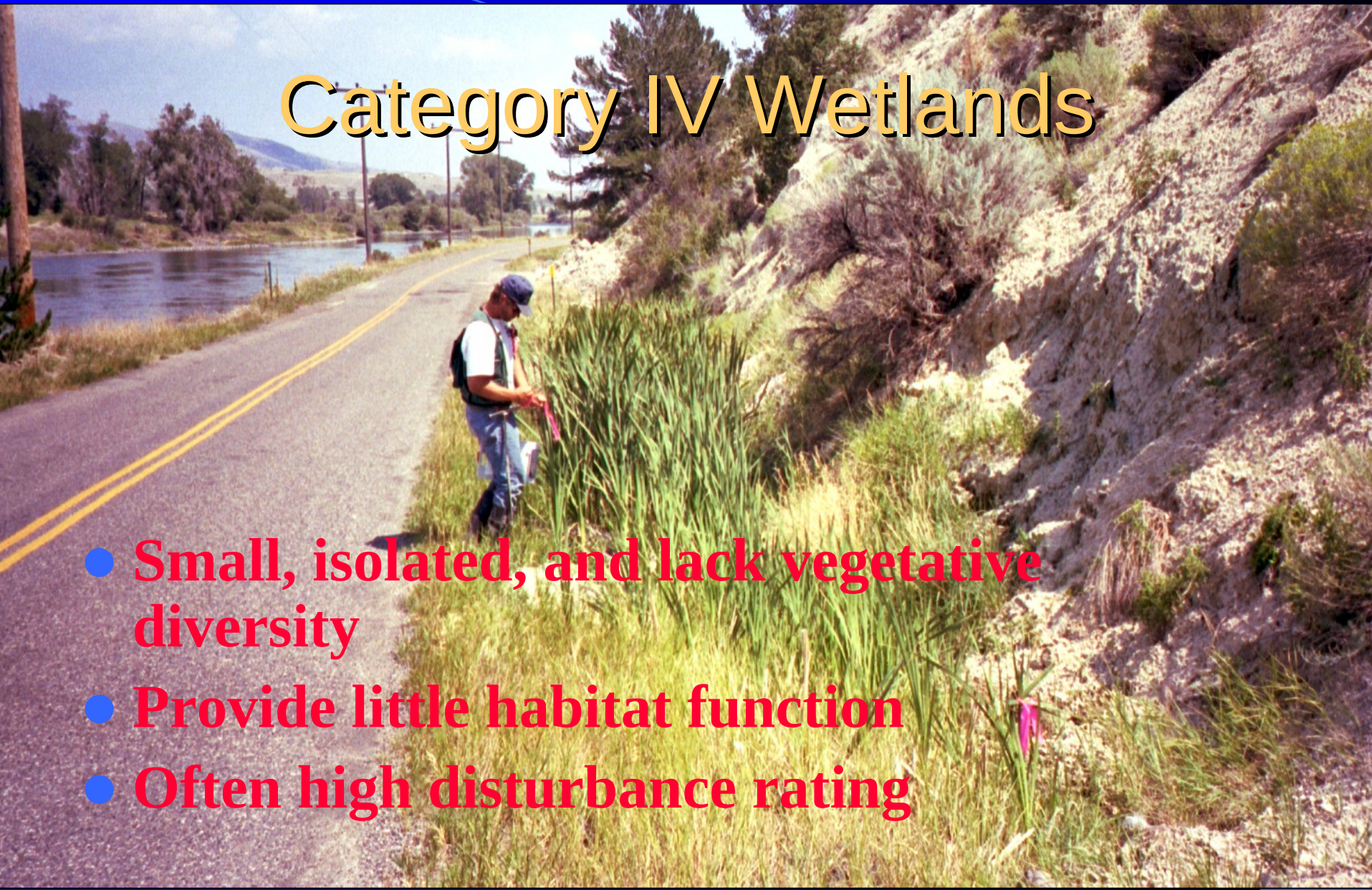
Category II Wetlands

- More common than Category I
- Sensitive species habitat
- High quality fish and/or wildlife habitat
- Unique types in a given region
- High scores for many assessed parameters

Category III Wetlands

- More common, less diverse than Categories I or II
- Can provide many functions
- Not unique wetland types, not substantive T&E or sensitive species habitat

Category IV Wetlands



- **Small, isolated, and lack vegetative diversity**
- **Provide little habitat function**
- **Often high disturbance rating**

Time Involved for Assessment

- “Routine” verses “comprehensive” approach – both can apply.
- Generally one field person with wetland science background (needs training / instructions).
- Can “lump” several similar sites into one assessment.
- 20-acre site, take one person 1 hour in office and 1-2 hours in the field (assumes wetlands are delineated).

QUESTIONS?